

REVIEW ARTICLE

CYBER BULLYING - A NEW SOCIAL MENACE

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Abstract

Objective: Cyber bullying is a combination of the word cyber and bullying where cyber basically means the Internet or on-line. In this case, cyber bullying will focus on getting in action with bullying by using the Internet or modern technologies such as on-line chats, online media and short messaging texts through social media. The current review aims to compile and summarize the results of relevant publications related to “cyber bullying.” The review also includes discussing on relevant variables related to cyber bullying. **Methods:** Information from relevant publications addresses the demographics, prevalence, differences between cyber bullying and traditional bullying, bullying motivation, avenues to overcome it, preventions, coping mechanisms in relation to “cyber bullying” were retrieved and summarized. **Results:** The prevalence of cyber bullying ranges from 30% - 55% and the contributing risk factors include positive association with perpetration, non-supportive school environment, and Internet risky behaviors. Both males and females have been equal weigh on being perpetrators and victims. The older groups with more technology exposures are more prone to be exposed to cyber bullying. With respect to individual components of bullying, repetition is less evident in cyber bullying and power imbalance is not measured by physicality but in terms of popularity and technical knowledge of the perpetrator. **Conclusion:** Due to the limited efforts centralized on the intervention, future researchers should focus on testing the efficacy of possible interventional programs and the effects of different roles in the intervention in order to curb the problem and prevent more deleterious effects of cyber bullying. *ASEAN Journal of Psychiatry, Vol. 17 (1): January – June 2016: XX XX.*

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Introduction

Bullying is to harm others, which affect the victims' emotion or physical well-being. There are three basic characteristics of bullying, which are negative action, repetition and power imbalance [1]. Bullying is defined as repetitively performing negative actions on an individual [2].

Cyber bullying is a combination of the word cyber and bullying where cyber basically means the Internet or on-line. In this case, cyber bullying will focus on getting in action with bullying by using the Internet or contemporary technologies such as on-line chats, online media and short messaging texts through social media. This includes repetitively performing the act of harming and hurting an individual through the Internet or

modern devices without physically confronting the victim [3]. In another study done on high-school students defines cyber bullying as an intentional and deliberately bullying using electronic gadgets. In this sense, the word repetitively is also applied to when the perpetrator only posted one harmful comment but saw by many, it is considered as repetitive action [4]. Cyber bullying is seen as a type of covert bullying where the bullies expressed themselves in a hiding manner [5]. Studies conducted on this issue mentioned that cyber bullying is an extension to traditional bullying where it is known by “new wine in an old bottle” [6-7]. Also, another researcher believes it is a new mode of bullying [8]. Nevertheless, cyber bullying maintains its own uniqueness from traditional bullying.

The differences between cyber bullying and traditional bullying are not very obvious due to the similarities in techniques. Although both cyber bullying and traditional bullying brings harm and treats towards the victims, cyber bullying allows the bully to hide behind a screen and conduct the bullying without being easily identified, which allows anonymity. Next, cyber bullying also allows information to be spread rapidly and allows the perpetrator to access the bullying anywhere, anytime. Hence, availability and accessibility to bullying are more convenient and generally assisting the act [5].

In general, traditional bullying has a higher prevalence rate as compared to cyber bullying [9-10]. This is because cyber bullying is relatively new to the society and researches done are limited [11]. The cyber bullying issue is expected to increase as adolescents increased their time spent on the Internet and mobile phone usage. Unfortunately, in contrast to the case, youths and parents took this issue lightly and perceived it to be less severe as compared to traditional bullying. In addition to that, many find it hard to differentiate between an innocent prank and cyber bullying [12]. Recent meta-analysis showed that cyber bullying relates strongly to suicidal ideation as compared to traditional bullying [13], causing more negative effect on the victims.

Besides that, parental attention plays a vital role in identifying cyber bullying and

traditional bullying. The older generations are mostly less technology savvy as compared to the newer generations which then affects the efficiency in detecting and realizing cyber bullying activities [14]. Due to this, there is lacked of fear towards punishments for bullying, which may contribute to the rising rate of cyber bullying.

Definition

Review has shown that there is no clear definition for cyber bullying and that it is yet to be decided on [8]. Olweus’s definition of traditional bullying has gained widespread acceptance, and scholars have adopted the same criteria for defining cyber bullying. This definition states that a person is bullied when he/she is exposed, repeatedly and over time to negative actions on the part of one or more other persons, and he/she has difficulty defending him/herself [15]. The important criteria of this definition include: (i) repetition, (ii) deliberate, (iii) time period (generally considered more than a week), (iv) imbalance of power, (v) intention of the perpetrator to hurt and; (vi) perceived by the victim to be hurtful.

In terms of defining cyber bullying, some researchers debate that some criteria of the traditional definition may not be necessary [16]:

Deliberate. This character mainly focuses on the intention of the perpetrator to conduct the bully. It also includes the thoughts and planning of the activity. Hence, deliberate is having the perpetrator intentionally wanting to conduct the bully [5].

Repetition. Repetition has to repeat the same bullying act more than once. This also includes bullying in any ways, but the behavior of bullying is repetitive [5]. In terms of cyber bullying, a one-time online post can be shared, re-posted and commented repeatedly. Repetition is bound to happen due to the simplicity of spreading information on the Internet.

Power imbalance. Power imbalance is having differences in power levels of the victim and perpetrator such as physical size of the

perpetrator and victim. In contrary with the traditional bullying, power imbalance in cyber bullying is measures in physical terms but can be measured in terms of popularity of the perpetrator and level of technological knowledge. Also, anonymity grant power to the perpetrator who causes power imbalance for the victim is unable to identify the bully [17].

Currently, researchers either categorize cyber bullying as a type (cyber vs. relational, physical bullying); environment (cyberspace vs. school bullying) or a communication mode (in-person vs. cyber bullying). The first two concepts have the disadvantage of double counting, and Ybarra et al. suggest treating cyber bullying as a communication mode [8]. Generally, cyber bullying is defined as bullying through the use of a variety of electronic media, including text messages, phone calls, email, social media and other communications technology. And among the many forms of cyber bullying, the most common ones are sending offensive messages via phone and the Internet, spreading rumor to harm the victim, and name-calling [18].

Prevalence

The prevalence rate of cyber bullying is within the range of 30% - 55% [9, 10, 18-23]. The lowest prevalence rate is 15.8% among high-school students from MetroWest Massachusetts [10]. The highest prevalence rate is reported by a recent meta-analysis [21]. Results from this meta-analysis showed a high prevalence rate of this issue in all countries: approximately, 40% and 55% of students are involved in some way either as victims, perpetrators, or observers. Hence, almost one of two students has been, or is involved in cyber bullying. Among them, the prevalence of victims is the highest: around 10% to 27% of those involved are victims of cyber bullying. Around 5.8% to 18% have been cyber bullied; and around 4% to 11% of them

have experienced both victims of cyber bullying and cyber bullied [18-20, 23] It is also observed that those who are involved in cyber bully are more likely to be involved in traditional bullying as well [20]. However, the prevalence of traditional bullying is still higher than cyber bullying [9, 10].

Risk Factors and Cyber bullying Motivations

Researchers are investigating many factors associated with cyber bullying and the motivation of perpetrators. Among them are beliefs about aggression [24-26]. Also, parenting factors plays a role in this as well [19, 27, 28]. Normative beliefs about aggression among youths are also investigated in terms of moral disengagement, lower empathic responsiveness [29] and exposure to violent online games [30], while poor parenting style [27], low levels of parental control and solicitation [28] and paternal unemployment [19] were shown to be positively correlated with cyber bully behaviors. Some evidence suggested that effort prevention of cyber bullying should include patterns of Internet use, amount and nature of social activities, and exposure to traditional bullying as risk factors for indulging in cyber bullying [11].

Two other frequently cited and inter-related motivations include anonymity and the disinhibition effect [18]. Unlike traditional bullying where it is in person, cyber bullies are not identified by the observers and victims. This distance protects them from facing the consequences of their actions; reducing self-control for potential bullies to do what they will not do in person [31]. At the same time, the inability of cyber bullies to view the direct impact of victimization is not conducive for empathic response or remorse [32]. Many other risks factors predict cyber bullying behavior and risk of victimization are shown in Table 1 [6, 10, 11, 25, 27, 33, 34].

Table 1. Risk factors predicting perpetration and victimization in cyber bullying

Positive association with perpetration	Positive association with victimization
Non-supportive school environment	Poor body image for girls
Internet risky behaviours	Obesity
Perception of peers behaving similarly	Nonheteronormative identified youth
Narcissistic exploitative ness	
Longer time spent on computer based social activities	

*Predicts involvement with cyber bullying regardless of roles

Impact of Cyber bullying

All forms of bullying have negative impacts on those involved. Cyber bullying has a few factors, which may intensify its negative impacts, including the difficulty in escaping from the bullying, the magnitude of the potential audience, the anonymity of the bully, and the ability to attack at any time and any place. On the other hand, cyber bullying does not cause physical harm, making its consequences fewer visible and nasty text messages or e-mails can be easily and quickly deleted [23].

Cyber bullying is reported to affect the victims' emotional well-being the most. Most of the cyber bullying involved individuals reported to experiencing emotional disruptions such as worry, afraid and sad. These emotions may be carried forward as the victim grows older and may affect their future lives [35]. Many researchers have looked into the effect of cyber bullying on its victims, bullies and bully-victim. Looking at high-profile cases, it is obvious that cyber bullying is related to depression and suicides. This is backed up by evidence that proves that cyber bullying is strongly related to suicidal ideation, suicide attempts, serious depression and stress [6, 10, 13, 20, 26, 36, 37]. Cyber bullying also has harmful effects on mental health. Research shows victims. Bully-victims and perpetrators have lower self-esteem [20, 37], victims have higher risk of having a psychosomatic problem [6, 38], and in a research interviewing 55 young people with clinical high risk for psychosis, 38% of them has experienced cyber bullying before [39].

Cyber bullying also affects school performance. Victims have lower school

performance and attachment [10], and do not feel safe in school. An interesting finding is that cyber bully status is associated with perceived difficulties, headache and not feeling safe at school [38]. However, the directionality of these cannot be proved. In addition to that, cyber bullying has been seen as a social status modulator. There is a positive relationship between cyber bullying and perceived popularity. This weighs more towards females where they may measure their popularity and social status through social media. Bullies may use this as an advantage to bully others to gain a higher position of the social status [40]. Across all research, a common finding is that the group most vulnerable to negative impacts of cyber bullying is the bully-victims and this should be considered in the main target intervention of the problem [38].

The severity of the impacts also depends on the form of cyber bullying. Cyber bullying which is public (such as social network) rather than private (such as abusive text messages) and anonymous perpetrators rather than non-anonymous is more severe [41]. Cyber bullying with pictures and videos, especially of intimate or violent scenes are perceived as more severe over prank calls or insults on short messaging texts (SMS) [42, 43].

Interventions

Currently, there is not much research on the direct effect of interventional programmes. Out of the articles found, three papers published showed efficacy of the researched programmes. These include the KiVa programme, Media Hero programme and Peer-led role models programme [44-46].

The KiVa programme targets the bystanders. A separate study found that cyber bullying victims' success in coping with bullying largely depended on schoolmates and other bystanders' social support. Behavioral determinants to defend or support the victim were found to be low moral disengagement, that the victim is an in group member, and that the bystander is popular. However, youths perceived low support for defending victims from peers and parents [33]. Encouraging a supportive attitude towards the victim is one of the approaches of intervention. The KiVa programme targets the bystanders by increasing empathy; awareness of the role of bystanders in preventing cyber bullying and teaching potential bystanders strategies to help the victim. Study shows that KiVa has a significant intervention effect on the frequency of cyber victimization [45].

The second approach to prevent cyber bullying is tackling the perception of youths towards the problem. Studies showed that students believe cyber bullying is not as severe as physical bullying [47]. The Media Heroes (German: Medienhelden) [45] and Italian Peer-led model programme [44] mainly raises awareness and encouraged non-accepting attitudes towards cyber bullying, and supporting the victims. Both have been shown to be effective [44, 46].

Another approach is targeting the authoritative figures. More than one-third of victims do not report being bullied [22] and more surprisingly, half of them who reported the bullying were not taken seriously [9]. Children also report that they are afraid of overreaction and subsequent loss of Internet privileges if they report cyber bullying incidents to their parents [48]. Parents tend to underestimate their own children's bullying behavior as well as have insufficient notions of their children as victims of bullying [18]. Studies show that increased parental control and increased perception of punitive actions from adults are associated with lower cyber bullying involvement [36, 28]. Parents must thus be educated and be more aware of their children's online activities. Law and authority figures are also important roles in the intervention of cyber bullying but the general

publics' level awareness of relevant laws is low [48, 49].

Prevention

Cyber bullying is more common among students, whether they are children or adults. Social skills and coping skills should be taught and spread among students in educational settings. Awareness on the impact of such problems should be effectively conveyed to all potential victims or bullies. Coping strategies played a vital role in helping potential or involved students to be able to cope better with their problems [35].

Besides that, focusing on changing norms and social beliefs in educational settings is important in changing students' perceptions towards cyber bullying. By changing the social norms, students may not be willing to accept cyber bullying as a social norm and take this issue seriously. Positive social norms also promote positive mindset and behaviors which will result in lesser social conflicts [35]. In addition to that, educational institutes may implement positive online interactions such as allowing students to access the Internet or use electronics for positive reasons. This will enable students to practice positive relationships and positive views about technology. Example of such practice is conducting discussions and educational online groups for students to form healthy relationships and sharing appropriate materials [50].

Cyber bullying may affect anyone regardless of age. Due to this, it is vital to focus on observation such as keeping computers and electronic gadgets at a visible range. This also includes monitoring the usage of electronic gadgets and the Internet in educational institutes as well as at home. This way, parents, families, friends and higher authorities are able to be aware of bullying through texts or online media. Cyber bullying will be made harder if it is detected easily [50]. Next, education and awareness about cyber bullying are crucial for preventing this issue. Awareness on the dangers and effects of cyber bullying may allow victims to protect themselves against cyber bullies. It is also important to be technologically savvy and be

aware of how technology works. Educating students on how to avoid being a victim of cyber bullying such as awareness of the type of personal information to be shared and the boundaries on the appropriateness of information shared online plays a vital role in preventing cyber bullying [50]. Education may also include teaching students and parents of the danger of cyber bullying. This way, students will be able to protect themselves from bullies [35]. Lastly, preventive measures may also take the form in attentions given to potential victims and bullies. Parents and educators play a vital role in detecting cyber bullying. Paying more attention to the victims or bullies allows them to admit and share their experiences with higher authorities. This way, more cases can be reported and solved [35].

Coping Mechanism

Coping with issues and problems are vital in solving these matters. Coping strategies used should be able to promote positive outcomes from a negative issue. Wrong coping strategies may result in negative outcomes. There are two types of coping strategies, which are the problem-focused and the emotion-focused strategies [51]. Other coping strategies that can be applied to cyber bullying are approach and avoidance. Approach is more into solving the problem faced while avoidance is to prevent confrontations towards the problem. These strategies are more suitable for victims who believe in their own power over the situation. Besides that, ability to cope also depends on the resources available to the victim to cope with the bullies [52].

In an interesting notion, a research done on children and adolescents shown that they are more likely to consider telling someone and sharing their experiences with others but only very few will fight back and face the perpetrator. Most also considered changing their electronic mail (e-mail) addresses, mobile numbers and their online profiles. The students did not think that asking cyber bullies to stop was a good idea as compared to traditional bullying. Due to this, the perpetrator does not feel the threat from the victims and continues to hurt others [53]. According to another study done on university students, it is found that they normally block

the perpetrator from contacting them and changing online profiles and accounts. Adolescents are more likely to seek help from their peers or friends, then from their families then finally from authority figures such as school personnel [51, 52]. This is explained through the lack of confidence in the ability of the authority figures to understand and help them in solving their problems. The victims are also afraid of losing their electronic gadget and Internet privileges [50]. On the other hand, young adults tend to cope with cyber bullying by seeking support from peers or friends and facing the bully such as revenge seeking behaviors. These coping strategies were seen as less effective. According to the research, university students tend to use strategies that are more widely accepted such as blocking, avoiding and seeking support from others, which are focused on problem-focused coping. There is a difference between young adults and adolescents or children in a way that university students are more accepting to the idea of seeking help from authority figures such as lecturers [51, 52].

Other ways on how to cope with cyber bullying are confronting the bully. This method has been proven to worsen the situation and may also cause the bully to further bully the victim outside of cyber bullying such as harming physically. Due to this, the method best to stop the bullying immediately is by blocking or changing online profiles [50].

In this case, the coping mechanisms and strategies used in most ages were similar. Most of the victims of cyber bullying tend to withdraw themselves from the bullying. It is found that victims prefer to sort to block or changing of on-line identity and profile or avoiding contact on-line with the bullies. In the case of genders, males tend to resort to more intimidating solutions while females are more subtle.

Gender and cyber bullying

Males as perpetrators. Some of the reviews done on gender differences and cyber bullying have shown significant results weighing towards males are more likely to have been involved in the bullying activity as compared

to females. This study done on 2,298 pupils in England from 14 different schools with ages ranging from 11 to 16 years old showed a significant result on three different domains. The domains are all considered for the last two months, have directly bullied someone, using mobile phone to bully someone and using the Internet to bully. Although males are more prone to direct bullying, in terms of cyber bullying, males showed more involvement than females even when cyber bullying is considered as indirect bullying [54]. These results are also supported by a study done on adolescents where males were found to be more involved than females [55]. This phenomenon may be due to the fact that cyber bullies are mostly involved in traditional bullying as well, making the results of cyber bullying similar with the traditional bullying [54]. It is also mentioned that the results for the relationship between cyber bullying and traditional bullying were correlated. This shows that the involvement in traditional bullying affects cyber bullying [56]. In another study done on studying the empathy and cognition of different genders in relation to cyber bullying, it is found that males are more prone to be involved in bullying than females. It is explained that this phenomenon is due to the lower levels of empathy experienced by males [57].

Females as perpetrators. In the contrary, according to another research done on gender differences on cyber bullies, the results found that females were more likely to conduct cyber bullying behaviors as compared to males. They were to show to express their aggressions through posting stories online to hurt others [58]. According to the research done on middle school children, it is found that females are more likely than males to be involved in cyber bullying. This was due to the ability for females to prefer indirect aggressions in expressing their emotions [59]. This is because females involved in psychological and emotional abuse, which is not physically involved [58]. Lastly, on a similar study done on college students, the results showed that there were no significant differences between genders [60]. It is also mentioned that cyber bullying is more common among females as compared to males due to the morality believes that each gender

possesses. Females usually learn to care and be responsible in their actions while males are focused on moral justice. Due to this, females will resort to bully through a method that is not seen as physical or violent while physical aggression is the way males build their status among peers [61].

Victimization. In terms of being the victim of cyber bullying, females are more likely to be cyber bullying victim as compared to males [62]. On the other hand, Li (2006) found that there were no differences in gender when it comes to preferences of victims. It is found that males were more likely to be cyber victims than females according to a study done on China's students. It is mentioned that these differences in results occur due to the differences in understanding of the definition of cyber bullying between Westerns and Asians [63]. From here it can be seen clearly that there are lacked of research done on the gender differences on victimization and is unable to come to a conclusion on whether there is a gender difference in this matter.

In the sense of becoming a victim, there is a correlation between traditional bullying and cyber bullying. This is because the victims being bullied in school may be brought home and continued online or via mobile phones. Bullies who were involved in traditional bullying may target the same victim outside of school and continue the bullying on-line. Hence, victims of traditional bullying will most likely be involved in cyber bullying. This issue also applies to victims of cyber bullying may also eventually become a victim of traditional bullying [53].

Age and cyber bullying

Children (Ages: Below 12). An investigation done on younger children below the age of 11 years old shown that there are more likely to report bullying but did not experience much cyber bullying as compared to older children such as adolescents [53]. In another study done on fifth and sixth-grade children, it is found that fifth and sixth graders are more involved in the Internet and mobile phone usage. This may be caused by the lack of attention from parents on the Internet and mobile phone usage. Parents of these children

view their child as incapable of being involved in such activities that may contribute to cyber bullying [64]. The level of involvement in cyber bullying seems to be increasing by age from 10 to 16 years of age. The increasing amount of technology usage of the child's age may have contributed to the increasing levels of cyber bullying involvement [35].

Adolescence. According to a research done to compare older students and children below the age of 11 years old, it is found that adolescents tend to report on experiencing more cyber bullying than younger children [53]. Adolescents at the age range of 12 to 16 and older were more prone to be involved in cyber bullying as compared to older adults [4]. On the other hand, in another study done on high-school students, the involvement of high-school students in cyber bullying is low. The rate of involvement is only at 10% of the school's population. This was due to the growing maturity towards the effects of cyber bullying towards victims and bullies who had brought the number of involvement lower [65].

Adults. At this age, it is found that the involvement of young adults is more obvious. This may be due to the higher willingness levels of young adults to report such cases. Interestingly, there are lesser reports among older adults, generally aged than 30 years-old [3]. Similar results were obtained from a study done on university students found that young adults are very much involved in cyber bullying. The explanation to this is that students in universities are much older. Hence, there are lesser parental supervision and increase use of social technologies for communication purposes. Almost all university students own a mobile phone and have access to the Internet. In addition to that, at that age, they are more prone to conducting risky behaviors. Hence, the probability that they would be involved in cyber bullying is higher as compared to older adults [4].

Victimization and perpetrator. In terms of being a victim, there is no significant difference in age. This means that there is no preference on the certain age group on whom to be a victim in cyber bullying [53]. On the other hand, there is an existence of relationship between being involved in cyber

bullying as a child and being involved in adulthood. This means that if an individual is involved in bullying as a young child, it will affect the individual's behaviors towards bullying in adolescents and adulthood. This may be due to the inability to cure the psychological effects as the individual matures [3].

Conclusion

Whether cyber bullying is an "old wine in new bottle" or a new and distinct form of bullying, there is no denying that it has been potential devastating effects. The anonymity and public nature of cyber bullying meant that it may have even more pronounced negative effects than traditional bullying, leading to an emotional outburst, outbursts, decreased school performance, low self-esteem, depression and suicide. The worrying trend of increasing prevalence means that the problem has to be tackled more vigorously. However, perception towards the problem from the youth or adults, including the authority figures tends to be too tolerant. Furthermore, there is little research on possible interventions to the problem. Most researchers have come up with suggestions based on observation and testing of risk factors and motivations behind the act of cyber bullying. In the future, researchers should focus on testing the efficacy of possible interventional programs and the effects of different roles in the intervention in order to curb the problem and prevent more deleterious effects of cyber bullying.

Authors Disclosure Statement

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References

1. Cheng YY, Chen LM, Ho HC, Cheng CL. Definitions of school bullying in Taiwan: a comparison of multiple perspectives. *Sage*. 2011; 32(3):227-243.
2. Chen LM, Cheng YY. Prevalence of school bullying among secondary students in Taiwan: Measurements with and without a specific definition

- of bullying. Sage. 2013; 34(6):707-720.
3. Zalaquett CP, Chatters SSJ. Cyber bullying in college: frequency, characteristics, and practical implications. Sage. 2014; 1-8.
 4. Doane AN, Kelley ML, Chiang ES, Padilla MA. Development of the cyber bullying experiences survey. Sage. 2013; 1(3):207-218.
 5. Cowie H, Jennifer D. New perspectives on bullying. New York: McGraw-Hill; 2008.
 6. Landstedt E, Persson S. Bullying, cyberbullying, and mental health in young people', Scand J Public Health. 2014; 42(4):393-399.
 7. Li Q. New bottle but old wine: A research of cyberbullying in schools. Computers in human behavior. 2007; 23(4):1777-91.
 8. Ybarra ML, Boyd D, Korchmaros JD, Oppenheim JK. Defining and measuring cyberbullying within the larger context of bullying victimization. J Adolesc Health. 2012; 51(1):53-8.
 9. Gan SS, Zhong C, Das S, Gan JS, Willis S, Tully E. The prevalence of bullying and cyberbullying in high school: a 2011 survey. Int J Adolesc Med Health. 2014; 26(1):27-31.
 10. Schneider SK, O'Donnell L, Stueve A, Coulter RW. Cyberbullying, school bullying, and psychological distress: a regional census of high school students. Am J Public Health. 2012; 102(1):171-7.
 11. Twyman K, Saylor C, Taylor LA, Comeaux C. Comparing children and adolescents engaged in cyberbullying to matched peers. Cyberpsychology, Behavior, and Social Networking. 2010; 13(2):195-9.
 12. Baas N, de Jong MD, Drossaert CH. Children's perspectives on cyberbullying: insights based on participatory research. Cyberpsychol Behav Soc Netw. 2013;16(4):248-53.
 13. van Geel M, Vedder P, Tanilon J. Relationship Between Peer Victimization, Cyberbullying, and Suicide in Children and Adolescents: A Meta-analysis. JAMA Pediatr. 2014; 168(5):435-442.
 14. Herring SC. Questioning the generational divide: Technological exoticism and adult construction of online youth identity. Youth, identity, and digital media. 2008; 71-94.
 15. Olweus D. The revised Olweus bully/victim questionnaire: University of Bergen. Research Center for Health Promotion.1996.
 16. Langos C. Cyberbullying: the challenge to define. Cyberpsychol Behav Soc Netw. 2012; 15(6):285-9.
 17. Varjas K, Talley J, Meyers J, Parris L, Cutts H. High school students' perceptions of motivations for cyberbullying: An exploratory study. Western Journal of Emergency Medicine. 2010; 11(3):269.
 18. Dehue F, Bolman C, Vollink T. Cyberbullying: youngsters' experiences and parental perception. Cyberpsychol Behav. 2008; 11(2):217-23.
 19. Arslan S, Savaser S, Hallett V, Balci S. Cyberbullying among primary school students in Turkey: self-reported prevalence and associations with home and school life. Cyberpsychol Behav Soc Netw. 2012; 15(10):527-33.
 20. Chang FC, Lee CM, Chiu CH, His WY, Huang TF, Pan YC. Relationships among cyberbullying, school bullying, and mental health in

- Taiwanese adolescents. *J Sch Health*. 2013; 83(6):454-62.
21. Garaigordobil M. Prevalencia y consecuencias del cyberbullying: una revisión. *International Journal of Psychology & Psychological Therapy*. 2011; 11(2):233-254.
22. Gonzalez AB. Cyberbullying at school. *Rev Enferm. Epub Cyberbullying en el Colegio*. 2013; 36(10):16-21.
23. Lindfors PL, Kaltiala-Heino R, Rimpela AH. Cyberbullying among Finnish adolescents--a population-based study. *BMC Public Health*. 2012; 12:1027.
24. Ang RP, Huan VS, Florell D. Understanding the relationship between proactive and reactive aggression, and cyberbullying across United States and Singapore adolescent samples. *J Interpers Violence*. 2014; 29(2):237-54.
25. Ang RP, Tan KA, Talib MA. Normative beliefs about aggression as a mediator of narcissistic exploitativeness and cyberbullying. *J Interpers Violence*. 2010; 26(13):2619-2634.
26. Kowalski RM, Giumetti GW, Schroeder AN, Lattanner MR. Bullying in the digital age: a critical review and meta-analysis of cyberbullying research among youth. *Psychol Bull*. 2014; 140(4):1073-137.
27. Floros GD, Siomos KE, Fisoun V, Dafouli E, Geroukalis, D. Adolescent online cyberbullying in Greece: the impact of parental online security practices, bonding, and online impulsiveness. *J Sch Health*. 2013; 83(6), 445-53.
28. Shapka JD, Law DM. Does one size fit all? Ethnic differences in parenting behaviors and motivations for adolescent engagement in cyberbullying. *J Youth Adolesc*. 2013; 42(5):723-38.
29. Steffgen G, Konig A, Pfetsch J, Melzer A. Are cyberbullies less empathic? Adolescents' cyberbullying behavior and empathic responsiveness. *Cyberpsychol Behav Soc Netw*. 2011; 14(11):643-8.
30. Lam LT, Cheng Z, Liu X. Violent online games exposure and cyberbullying/victimization among adolescents. *Cyberpsychol Behav Soc Netw*. 2013; 16(3):159-65.
31. Aricak T, Siyahhan S, Uzunhasanoglu A, Saribeyoglu S, Ciplak S, Yilmuz N, et al. Cyberbullying among Turkish adolescents. *Cyberpsychol Behav*. 2008; 11(3):253-61.
32. Bryce J, Fraser J. "It's common sense that it's wrong": young people's perceptions and experiences of cyberbullying. *Cyberpsychol Behav Soc Netw*. 2013; 16(11):783-7.
33. DeSmet A, Veldeman C, Poels K, Bastiaensens S, Van Cleemput K, Vandenbosch, H, De Bourdeaudhuij I. Determinants of Self-reported Bystander Behavior in Cyberbullying Incidents Amongst Adolescents. *Cyberpsychol Behav Soc Netw*. 2014; 17(4):207-215.
34. Hinduja S, Patchin JW. Social influences on cyberbullying behaviors among middle and high school students. *J Youth Adolesc*. 2013; 42(5):711-22.
35. Von Marées N, Petermann F. Cyberbullying: An increasing challenge for schools. *School Psychology International*. 2012; 33:467-476.
36. Hinduja S, Patchin JW. Bullying, cyberbullying, and suicide. *Arch Suicide Res*. 2010; 14(3):206-21.

37. Patchin JW, Hinduja S. Cyberbullying and self-esteem. *J Sch Health*. 2010; 80(12):614-21.
38. Sourander A, Brunstein Klomek A, Ikonen M, Lindroos J, Luntamo T, Koskelainen M, Ristkari T, Helenius H. Psychosocial risk factors associated with cyberbullying among adolescents: a population-based study. *Arch Gen Psychiatry*. 2010; 67(7):720-8.
39. Magaud E, Nyman K, Addington J. Cyberbullying in those at clinical high risk for psychosis. *Early Interv Psychiatry*. 2013; 7(4):427-30.
40. Wegge D, Vandebosch H, Eggermont S, Pabian S. Popularity through online harm: the longitudinal associations between cyberbullying and sociometric status in early adolescence. *Sage*. 2014 1-22.
41. Sticca F, Perren S. Is cyberbullying worse than traditional bullying? Examining the differential roles of medium, publicity, and anonymity for the perceived severity of bullying. *J Youth Adolesc*. 2013; 42(5): 739-50.
42. Menesini E, Nocentini A, Calussi P. The measurement of cyberbullying: dimensional structure and relative item severity and discrimination. *Cyberpsychol Behav Soc Netw*. 2011; 14(5):267-274.
43. Slonje, R., & Smith, P. K. Cyberbullying: another main type of bullying? *Scand J Psychol*. 2008; 49(2):147-54.
44. Palladino BE, Nocentini A, Menesini E. Online and offline peer led models against bullying and cyberbullying. *Psicothema*. 2012; 24(4):634-9.
45. Williford A, Elledge LC, Boulton AJ, DePaolis KJ, Little TD, Salmivalli C. Effects of the KiVa antibullying program on cyberbullying and cybervictimization frequency among Finnish youth. *J Clin Child Adolesc Psychol*. 2013; 42(6):820-33.
46. Wolfer R, Schultze-Krumbholz A, Zagorscak P, Jakel A, Gobel K, Scheithauer H. Prevention 2.0: Targeting Cyberbullying @ School. *Prev Science*. 2013; 15:879-887.
47. Boulton M, Lloyd J, Down J, Marx H. Predicting undergraduates' self-reported engagement in traditional and cyberbullying from attitudes. *Cyberpsychol Behav Soc Netw*. 2012; 15(3):141-7.
48. Baas N, de Jong MD, Drossaert CH. Children's perspectives on cyberbullying: insights based on participatory research. *Cyberpsychol Behav Soc Netw*. 2013;16(4):248-53.
49. Paul S, Smith PK, Blumberg HH. Investigating legal aspects of cyberbullying. *Psicothema*. 2012; 24(4):640-5.
50. Cassidy W, Faucher C, Jackson M. Cyberbullying among youth: a comprehensive review of current international research and its implications and applications to policy and practice. *Sage*. 2013; 34(6):575-612.
51. Orel A, Campbell M, Wozencroft K, Leong E, Kimpton M. Exploring university students' coping strategy intentions for cyberbullying. *Sage*.
52. Parris L, Varjas K, Meyers J, Cutts H. High school students' perceptions of coping with cyberbullying. *Sage*. 2011; 44(2):284-306.
53. Monks CP, Robinson S, Worlidge P. The emergence of cyberbullying: a survey of primary school pupils' perceptions and experiences. *Sage*. 2012; 33(5):477-491.
54. Smith BW, Dempsey AG, Jackson SE, Olenchak FR, Gaa J. Cyberbullying

- among gifted children. Sage. 2012; 28(1):112-126.
55. Li Q. Cyberbullying in schools. Sage. 2006; 27(2):157-170.
56. Erdur-Baker O. Cyberbullying and its correlation to traditional nullyng, gender and frequent and risky usage of internet-mediated communication tools. Sage. 2010; 12(1):109-125.
57. Topcu C, Erdur-Baker O. Affective and cognitive empathy as mediators of gender differences in cyber and traditional bullying. Sage. 2012; 33(5):550-561.
58. Marcum CD, Higgins GE, Freiburger TL, Ricketts ML. Battle of the sexes: An examination of male and female cyber bullying. International Journal of Cyber Criminology. 2012; 6(1):904-911.
59. Campfield DC. Cyber bullying and victimization: psychosocial characteristics of bullies, victims, and bully/victims. (Unpublished doctoral dissertation). University of Montana, Missoula, Montana; 2006.
60. Macdonald CD, Roberts-Pittman B. Cyberbullying among college students: prevalence and demographic differences. Procedia Social and Behavioral Sciences. 2010; 9:2003-2009.
61. Connell NM, Schell-Busey NM, Pearce AN, Negro P. Badgrlz Exploring sex differences in cyberbullying behaviors. Sage. 2013; 12(3):209-228.
62. Cyberbullying experience and gender differences among adolescents in different educational settings. Sage. 2013; 48(2):146-155.
63. Zhou Z, Tang H, Tian Y, Wei H, Zhang F, Morrison CM. Cyberbullying and its risk factors among Chinese high school students. Sage 2013; 34(6):630-647.
64. Bauman S. cyber bullying in rural intermediate school: an exploratory study. Sage. 2010; 30(6): 803-833.

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